

HURRICANE AT BERMUDA, OCTOBER 22, 1926

W. H. Potter, of Bermuda, has sent the following account, to which we add a table of pressure and wind velocities taken from *The Royal Gazette and Colonist Daily*, Bermuda, for October 25, 1926.

The tropical disturbance which passed over Bermuda on October 22d, 1926, was unique in that it gave no preliminary warnings of its approach. Usually they do. The storm that passed near here on August 6th heralded its approach on the 2d by a very heavy swell on the south shore which kept increasing as the storm came nearer. If it had not been for the warnings issued by the Weather Bureau, no one would have considered the possibility of a hurricane until the storm broke; even with these warnings, it seemed doubtful.

On October 18th, 19th, and 20th the barometer, while rather low was steady, the weather clear and warm. Wind W., moderate, but light on the 20th, veering through NE. to SW. by the 21st. On the 21st the sky was overcast with alto-stratus, but not the uniform pall that precedes hurricanes, but of different thicknesses which grew heavier and lower as the day went on. The wind was SW., light, and the barometer fell very slowly. The symptoms were exactly those that obtain when an ordinary low passes to the north of us and the indications were, rain in the night followed by clearing with W. to NW. winds next day. It rained in the night hard.

At 7:30 a. m. of the 22d the barometer had taken a big drop, wind backed to SE. and rain was still falling and the graph seemed to be flattening out. This would indicate that the storm was passing to the north and had reached its climax. Suddenly at 7:45 the wind backed to ENE., increased with heavy gusts, the barometer began its rapid fall and then there was no doubt what we were in for, and from then on was a conventional hurricane.

The calm center was rather large, taking about 40 minutes to pass, the wind backing through NE. to NNW. The wind blew harder and all the damage was done in the second half and its velocity was at least 120 m. p. h. Apart from two houses, unoccupied, destroyed in Hamilton, the damage, while rather large in the aggregate, was for the most part small individually. The roofs of probably 40 per cent of the houses were more or less damaged. No one was killed and one slightly injured, and there was no damage to speak of to the small boats in the harbor. The telephone was hit hard, but the electric lights were on in Hamilton by 7 p. m. the 22d, and here across the harbor by the next evening.

Following is the barometer and wind table, prepared by Sergt. W. R. Green, R. A. M. C., the observer at Prospect.

Barometer		Wind		
Hour	Inches	Hour	Actual m. p. h.	Direction
8 a. m.-----	29.54	7:30-8:30 a. m.---	28	SE.
		8:30-9:30 a. m.---	45	Changeable between SE. and NE.
		9:30-10:30 a. m.---	168	Do.
11 a. m.-----	28.58	10:30-11:30 a. m.---	47	Do.
		11:30-12:30 p. m.---	128	Do.
		12:30-1:30 p. m.---	114	NW.
3 p. m.-----	29.59	1:30-2:30 p. m.---		

¹ It blew at the rate of 95 miles per hour from 10 a. m. to 10:15 a. m.

² It blew at the rate of 8 miles per hour between 11:45 a. m. and 12 noon.

³ No record taken after 1:30 p. m.

At 12 noon the direction of the wind changed to NW.
Rainfall 4.50 inches.

The original barograph trace made at Paget, Bermuda, and kindly loaned to us by Mr. Potter, shows a finely developed deep V form: An uninterrupted and precipitous fall from (uncorrected) 29.75 inches at 7:45 a. m. to slightly below 28.75 inches shortly after noon, followed by a rise, not quite as rapid as the fall, beginning about 12:30 p. m. and reaching approximately 29.80 at about 6:30 p. m. The trace did not reach 30.00 inches until 7 a. m. the next day. Mr. Potter comments as follows upon this barogram:

"Unfortunately the pen was a bit sluggish. While it registered at 8. a. m. the 22d the same as the standard barometer at Prospect, it lacked 8 or 10 points of reaching the minimum at noon."

AN EARLY MORNING TORNADO AT BERMUDA

B. M. V.

It is rare indeed for six barographs to be grouped within a very few hundred yards of a tornado, two of them recording its passage in unmistakable form. This happened at Bermuda on December 12, 1925, as reported in *The Marine Observer* for December, 1926. The barographs were variously located on ships in Ireland Island Dock Yard, or in the office buildings of the yard. The two barographs which, at 5:25 a. m., registered sharp drops in pressure were: One in an office on one side of the whirl; another on board H. M. S. *Ormonde* on the other side. The one in the office, apparently nearest the center, recorded an instantaneous drop of some 6 mb.; that on the *Ormonde* a similar drop of about 4 mb. (Reproductions of these in the journal cited.) To quote from the account:

Ormonde's quartermaster reported that the wind was only audible for some 15 seconds before it burst upon the ship, and its duration was approximately 30 seconds, which did not enable him to get a reading of the anemometer—the ship heeled violently over to starboard, brought up against the wires and then heeled over, about 15° to port.

Many buildings were damaged in some way or another, tiles ripped off, small sheds capsized, and fences blown down. A whaler belonging to *Capetown* on the chocks at the boat slip was shifted 12 feet and badly holed. The 10-ton crane abreast *Ormonde's* bridge was swung right round and a cart close to it turned over * * *.

It was also said that a dock-yard policeman had a stormy passage up the jetty and was only saved from a ducking by fetching up against a bollard.

The breadth of the path of tornado is estimated to be about 300 yards.

551.509 (83)

THE WEATHER FORECAST SERVICE AT THE OBSERVATORIO DEL SALTO, SANTIAGO, CHILE

The following excerpts are taken from a bulletin prepared by the director of the Observatorio del Salto.

SHORT-RANGE FORECASTING

* * * The Government maintains throughout the length of the country a complete net of meteorological stations extending from Arica to Punta Arenas * * *. The observations are telegraphed to Santiago. Though there is really an excess of stations, in our forecasting we use only the observations from the most important ones * * *.

The following stations are taken as a basis for the construction of our meteorological charts: *In Chile*: Arica, Iquique, Antofagasta, Calta, Coquimbo, Los Andes, Valparaiso, Santiago, San Fernando, Curico, Talca, Chillan, Concepcion, Traiguen, Temuco, Valdivia, and Puerto Montt. We receive also twice a day by radio observations from the following remote stations: Coquimbo, Isla Juan Fernandez, Punta Tumbes, Isla Mocha, Isla Huafu, Cabo Raper, and Punta Arenas. *Bolivia*: From Bolivia there is a special telegraphic transmission of observations made at La Paz and Sucre, which are furnished also to the Observatory of San Calixto. *The Argentine*: Mendoza, Cordoba, San Luis, Buenos Aires, Bahia Blanca, Patagones de Rio Negro, Chosmalal, Las Lajas, Cipolletti, Puerto Madryn, and Bariloche. After all the observations have been assembled we construct a meteorological chart for all of southern South America, including Bolivia, Chile, and Argentina * * *. In our daily forecasting we use with most satisfactory results the methods of Guilbert, which permit us to foretell the occurrence of the various isobaric types * * *.

The forecasts are broadcast throughout the country daily. At 10 a. m. the morning bulletin is issued, which is broadcast by radiophone and published in the afternoon papers. At 4 p. m. a bulletin is wired to the provincial dailies. At 10 p. m. a general bulletin is issued to the press and broadcast from three radiophone stations.

We publish weekly in the press a verification of the daily forecasts. The weather that was forecast and the weather which occurred appear in parallel columns. In this way there is a rigid check upon the forecasts. The results obtained are highly satisfactory; during the first half of 1926 the percentage of hits did not as a rule fall below 80, and occasionally exceeded 95.